GLOBALISATION, MARKET FORMATION AND COMMODITISATION IN THE SPANISH EMPIRE. CONSUMER DEMAND FOR ASIAN GOODS IN MEXICO CITY AND SEVILLE, C. 1571-1630*

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ABSTRACT

This article aims to shed light on the process and mechanisms through which Asian manufactured goods (Chinese silk and porcelain, among others) were commoditised and how markets for such goods were formed in the Spanish Empire. After the opening of the Manila Galleon route in 1571 supply of and demand for Asian goods grew in the Spanish Empire, but retail means of supply of such goods were scantly developed. The article offers an econometric model which, when applied to data on a sample of probate inventories of elites of Mexico City and Seville, determines the influence of belonging to private, familial global networks in consumer demand expansion for Asian manufactures throughout the Spanish Empire.

Keywords: consumption, Asian goods, globalisation, formation of markets, Manila Galleons

JEL Classification: E21, F61, N30, R21

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RESUMEN

Este artículo pretende arrojar luz sobre el proceso y mecanismos a través de los cuales se formó un mercado de productos asiáticos (sedas y porcelanas chinas, entre otros productos) en el imperio español. Después de la apertura de la ruta del Galeón de Manila en 1571 el suministro y la demanda de productos asiáticos creció en el imperio español, pero los circuitos de comercialización de tales productos estaban todavía escasamente desarrollados. Este artículo ofrece un modelo econométrico que, aplicado a una muestra de inventarios post-mortem de las elites de México y Sevilla, pretende determinar la incidencia que tuvo la pertenencia a redes globales familiares privadas en la expansión de la demanda de manufacturas asiáticas en el imperio español.

Palabras clave: Consumo, productos asiáticos, globalización, formación de mercados, Galeones de Manila

1. INTRODUCTION

The history of material culture and consumer demand in pre-industrial times has answered many questions in recent years[1]. After three decades of studies, today most historians reject the notion that changes in material culture and consumer demand during the early modern period were mere consequences of changes in supply. Changes in demand played an active role in economic transformations before industrialisation and the development of modern economic growth. By giving the demand side of economics a less dependent role in explanations about the path to modern economic growth, analyses of pre-industrial economic history have become more complex and enriched[2]. In the case of Spain, this approach to material culture and consumer demand has contributed to modify and qualify some theses about the so-called failure of the Spanish path to industrialisation and economic modernisation (Yun and Torras 1999; Yun Casalilla *et al.* 2003; Muñoz Navarro 2011). More recently, global history has produced debates on which

[1] I am following here the definitions made by Jan de Vries of «material culture» and «consumer demand», which are often used as synonyms although they are not exactly the same. According to De Vries, material culture is a static concept which refers «to that world of goods as it exists, is used and is given meaning by the inhabitants of that world», while consumer demand is a dynamic concept which refers to «behaviour that changes, augments, replenishes or diminishes the goods accessible to the individual». Consumption, thus, refers to the desire for and use and deterioration of goods: De Vries (1993, p.102).

[2] Braudel (1984) and Cipolla (2003) were among the first scholars who explicitly addressed material culture and consumer demand in history. McKendrick (1982) and Roche (2000) definitively developed material culture and consumer demand as a research line. See also Brewer and Porter (1993), Berg and Clifford (1999). For debates about growth or fall of living standards of Europeans in the 18th century, coinciding with a period of stagnation of salaries but expansion of consumer demand, see Horrell and Humphries (1992), De Vries (1993, 2008) and Hersh and Voth (2009).

the history of material culture and consumer demand shed some light. These new historiographical trends, while discussing the concept of globalisation itself, explore the expansion of world trade of products such as Chinese silk and porcelain, Indian calico, spices, sugar, chocolate, coffee and tea among others, that took place between the 16th and 18th centuries as well as the reasons behind such an expansion, and relationships between empires, markets, consumption of goods and identities (O'Rourke and Williamson 2002a, 2002b; Flynn and Giráldez 2004; Nützandel and Trentmann 2008). What these new trends have rarely dealt with is a question which may help to explain the origins of world trade expansion in the early modern era: How did customers access novelty products on world markets in the early parts of the early modern era, when demand for such products was still scant and commercial means to supply them was poorly developed?

Commoditisation and market formation should not be taken for granted in history. New products do not immediately find a market (Styles 2000, p. 132). The process through which a good becomes a commodity and shapes a market is a complex one which in the early modern era entailed adjustments between supply and demand, and intercultural dialogues among different societies when goods were transported to different parts of the world[3]. As Arjun Appadurai (1986, p. 13) pointed out, for things to become commodities, their exchangeability for some other thing must become their socially relevant feature. In the early modern era, new commodities became more and more noticed and desired by consumers, at the same time as market forces regulated supply. This entailed lengthy processes of transformation and adaptation of consumption habits to new goods, and also, as John Styles (2000) explained, innovation and branding of products as well as transformations that made them more attractive to customers.

The early modern era was a privileged period in the development of processes of commoditisation of products, due to increases in contacts, interactions, and exchanges around the world which preceded and laid the foundations of world trade. Many products were transformed from rarities or completely unknown goods into commodities whose access and use ended up being regulated by fashion and market. Of all goods transformed into commodities in Europe and the Americas during the early modern era, Asian manufactures such as Chinese silk, porcelain and also Indian calico have received special attention in scholarship, as their commoditisation had strong impacts on most European economies of the 18th century (Berg 2004;

[3] For instance, Spaniards did not immediately start consuming tobacco and commercialising it when they arrived in the Americas because there was neither previous taste nor demand for tobacco in Europe: Yun Casalilla (2011, pp. 12-13). Furthermore, it may happen, and indeed usually does, that some products fail to create a market and are therefore never commoditised. To give an example, the coca leaf, in contrast to other American goods such as chocolate or tobacco, was scarcely consumed and never commercialised in Europe. For economic and cultural obstacles for new products to form a market, see also Styles (2000, pp. 125-126).

Batchelor 2006; McCants 2007; De Vries 2008). However, such an impact took place at a late moment in early modern times — the 18th century — when Asian textiles and furnishings, and European imitations, were already integrated into retail, new fashion and marketing systems[4] . In the case of Britain, Maxine Berg (2005, pp. 265-266) has pointed out the importance of the East India Company and initially exotic importations as a factor in new British shopper culture developed in the 18th century. Scholarship has rarely addressed the way demand for these products was satisfied and expanded in «pre-marketing» times, which is to say before retail specialisation, branding and modern techniques of product advertisement were developed in 18th-century Europe.

Expansion of consumer demand for new products had to do with globalisation. In recent debates about the concept, timing and characteristics of globalisation, Flynn and Giráldez (2004, 2008) have defended that globalisation was a process where market integration was merely one component among others, such as the diffusion of goods like flora and fauna throughout the globe, in which Chinese demand for and American production of silver were essential[5]. Following this line, scholarship has stressed the importance of the Manila galleons and New Spain in growing global interactions from the late 16th to the 18th century (Flynn and Giráldez 2004; Dobado 2014). In this line, the following pages attempt to address the role and ways in which global networks of Hispanic elites, particularly New Spanish elites, contributed to spread demand for Asian goods in the Spanish Empire.

This article aims to shed light on mechanisms of demand fulfilment for Asian manufactured goods in the Spanish Empire in the late 16th and early decades of the 17th centuries. After the Spaniards conquered the Philippine Islands in 1565 and founded Manila in 1571, they opened a commercial route which connected the Philippines to Acapulco, on the Pacific coast of New Spain. The Manila Galleon route became one of the most important routes of exchange between the Spanish Empire and Asia during the early modern era. The Manila galleons carried silver to Southeast Asia, where it was exchanged for Chinese silk and porcelain as well as other goods such as Japanese furniture. Asian goods started circulating in colonial Latin America; while some which arrived in New Spain were redistributed to other markets of the Americas and also to

[4] Literature on the history of shopping and retailing has advanced much in recent decades. Although retail and shopping systems of distribution were already present in late medieval times and the Renaissance, it was in the late 17th and 18th centuries when retail infrastructures and marketing systems, in line with growing diversification of new goods, specialised and supplied a more diversified range of goods to a new, modern consumer: Cox (2000); Blondé *et al*. (2006). For the Spanish case, see Muñoz Navarro (2011, pp. 99-120).

[5] For the debate about the concept of globalisation, see O'Rourke and Williamson (2002a, 2002b); Flynn and Giráldez (2004, 2008). The former conceive globalisation as the process of international market integration, whereas for the latter «Globalization began when all heavily populated land masses initiated sustained interaction [...] in a manner that deeply and permanently linked them» (Flynn and Giráldez, 2008, p. 369). A summary of the two positions can be found in De Vries (2009).

Castile (Chaunu 1956, pp. 1020-1021). It must be noted, however, that the formation of a market of Asian goods in the territories of the Spanish Empire, especially in Castile, was still incipient around 1600, and Asian goods were not only circulated as wholesale merchandise — that is goods to be sold to and bought by retailers, jobbers, hawkers and shopkeepers before they were finally purchased by customers. There are also historical examples of goods that circulated as gifts and personal commissions through familial networks before they were commoditised. For instance, it was common for Portuguese elites to commission those living in the Portuguese colonies within Asia to ship special orders of Chinese porcelain around 1600 (Canepa 2012, pp. 271-276). Likewise, American chocolate was consumed by Austrian aristocrats before it became merchandise in the 18th century, as it circulated throughout noble networks in contact with Spanish aristocrats (Lindorfer 2009, pp. 35-52). It is worth asking about the extent to which this gift- and commission-transferring, besides working as fuel for social and political relations between family members and elites (Howell 2010), favoured access to new, little commercialised products like Asian goods and expanded a demand for them in the Spanish Empire. This process provided roles for New Spanish elites as agents in the commoditisation of Asian goods throughout the empire, including Castilian cities.

This paper offers an econometric model that gauges impacts of different variables on consumer demand for Asian manufactures by elites in two of the most important cities of the Spanish Empire, Mexico City and Seville, between 1580 and 1630. This model is applied to sample data of 122 elite probate inventories of Mexico City and 131 of Seville, and presents impacts of strictly economic variables, such as wealth, and other variables such as familial and private contacts with people living in the Americas and the Philippines, on demand for Asian manufacturers by elites of these two large, globally connected cities. The main objective is to determine the degree to which elite customers, especially elite customers in cities such as Seville, which was farther away and less connected to Asia than cities such as Mexico, depended upon their familial transcontinental networks, instead of retail forces, to acquire Asian goods.

This article is organised as follows. In order to contextualise access to Asian manufactures by Hispanic elites, including expansion of their long-term demand in the Spanish Empire in the late 16th and early decades of the 17th century, section 2 provides notes on the reception of Asian manufactures, especially Chinese silk and porcelain, in Europe before the 17th century. Section 3 describes variables within the proposed estimate model of demand for Asian products under conditions of global markets in the 16th and 17th century Spanish Empire, and methodological precautions taken when inferring consumer demand from the sample of elites' probates in Mexico City and Seville. Section 4 runs the model in order to gauge impacts of familial and private means of diffusion of Asian goods, alongside other factors, on consumer demand for these goods in the two cities in the late 16th and early 17th century. Section 5 offers conclusions.

2. ASIAN GOODS IN EUROPE BEFORE THE 17TH CENTURY

Commercial contacts between China and Western Europe were scant, indirect and intermittent before the 17th century. Although scholarship traditionally considered that a direct link between the Roman Empire and China existed (Grant 1960, pp. 82-86; Honour 1973, pp. 30-31), current research has demonstrated that ancient Romans did not import Chinese silk. With current evidence, it is hard to be certain that Roman elites wore Chinese silk clothes. Most of the silks found in Europe in the centuries after the fall of the Roman Empire were not Chinese, but Byzantine. Furthermore, no direct trade existed between China and Western Europe in the Medieval Ages. China's main partners via the Silk Road were modern-day Iran, and, more indirectly, Byzantium. Although silk weavers from Lucca started imitating oriental designs in their embroideries, brocades and fabrics in the 14th century, few Chinese goods arrived in Europe before the 16th century. Furthermore, Chinese silk and porcelain were scarce in contrast to other products such as paper (Honour 1973, pp. 34-36; Hansen 2012, pp. 9, 18-21, 97;).

Nonetheless, maritime trade in Asia was vigorous from the 9th to the late 13th century, as new ports emerged, new Asian economies were monetised and mercantile organisations expanded. Asian maritime trade experienced an interruption from the late 13th to the mid 14th century, but it was temporal. When Vasco da Gama arrived in India in 1498, East, South and West Asia were among the most vibrant commercial areas of the world (Sen 2003; Wade 2009). His voyage commercially connected Europe with such dynamic commercial areas by sea for the first time. Italian territories, like the Grand Duchy of Tuscany, and Portugal increased their contacts with China via the Mediterranean Sea and Turkey, and with India via the Cape route, respectively. The Iberian kings, alongside popes and the wealthiest aristocrats of Europe, became eager purchasers of Asian objects (Kawamura 2003, p. 214). Around 1600, European potters started producing tin-glazed earthenware inspired by Chinese porcelain for the aristocracy (Finlay 1998; Canepa 2012, pp. 276-278).

Two events that took place far from Europe were to propel reception and expansion of Asian manufactured goods in the Atlantic World before the Dutch East India Company (VOC) expanded towards the middle of the 17th century: Portuguese settlement in Macao in 1557, and the foundation of Manila by Spaniards in 1571. The Chinese concession for the Portuguese to set up the colony of Macao near Canton and to open triangular trade between Macao, Nagasaki and Manila favoured the elites from Portugal and from colonial Latin America, who were able to acquire Asian goods as no other European elites could in the same period (Yuste 1984; Boxer 1985; Schurtz 1992). The flow of Asian goods in Latin American elite circuits contrasts with the flow of Asian goods in Europe around 1600. During the early 17th

century, the purchase of Asian manufactures was still far from spreading to wider segments of populations in European countries. Commoditisation and even knowledge of Asian goods were limited in most parts of Europe in the early 17th century (Berg 2004, p. 85). In such context, the elites of New Spain started supplying their Castilian peers with Asian manufactures by sending them as gifts and personal orders (Curiel 2007; Gasch-Tomás 2011).

The opening of the Manila Galleon route and the entry of Asian goods into the Spanish Empire via Acapulco entailed a supply shock that was driven by demand for and high prices of silver in China, and the increase in American silver output after the mid 16th century[6]. Although initial trade between Manila and the Americas was free, over time it was regulated. The increase in trade in the 1580s led Philip II to approve a royal decree in 1593 according to which trade between Acapulco and Manila was limited to loading 250,000 pesos of merchandise from Manila to Acapulco and 500,000 pesos in silver from Acapulco to Manila, and a fleet of two galleons. Contraband became a constant in trans-Pacific transactions, and Manila's trade enjoyed its first golden age around 1600 (Legarda 2001, pp. 337-366; Alonso Álvarez 2013, pp. 67-69).

«Inward Registers of Ships to Seville from New Spain» (*registros de venida de Nueva España*) of the late 16th and early decades of the 17th century, records each ship that sailed annually from Veracruz on the Atlantic coast of New Spain to Seville, including not only wholesale consignments of goods imported into Castile from New Spain such as silver, cochineal dye, leathers and indigo, but also shipments of gifts and special orders commissioned by Castilians through relatives and members of their guild and commercial companies who lived in the Americas. Chinese silk, porcelain, Japanese furnishings, fans and so forth were among the most recurrent goods in these packages of gifts and special orders. Many social groups were involved in this kind of transfer of Asian goods. As in earlier centuries, members of the aristocracy were implicated in the circulation of Chinese silks and porcelains in the early 17th century[7]. However, there were novelties in early 17th-century consignments of Asian manufactures across the Spanish Empire. Not only wealthy aristocrats but also other new «middling» elites participated in the diffusion of Asian goods as gifts and orders. Links between bureaucrats and members of socio-professional positions such as secretaries, judges, etc., and members of a family, on both sides of the Atlantic were important in the movement of Asian goods which were sometimes packaged alongside American goods such as cacao grains, chocolate and calabash bowls.

[6] Flynn and Giráldez (2002, pp. 399-405) defined the period of global monetary history from 1540 to 1640 as the Potosí/Japan Silver Cycle.

[7] Archivo General de Indias (henceforth AGI), Contratación, 1805, pp. 65-67; Contratación, 1823, pp. 598-601; AGI, Contratación, 1832, pp. 89-90; AGI, Contratación, 1841, pp. 2183-2186; AGI, Contratación, 1850, pp. 78-79; AGI, Contratación, 1851, pp. 63-67; AGI, Contratación, 1856, pp. 524-527; and AGI, Contratación, 1866, pp. 466-468.

Furthermore, transfer of Asian goods involved elites who lived not only in the King's Court, as in the Medieval Ages, but also in large Castilian cities such as Seville, Granada, and Toledo, among others. They sent each other different types of Chinese silks, Chinese porcelain, Chinese and Japanese escritoires, Indian cottons, and Japanese *katanas* and folding screens[8].

3. A MODEL TO ESTIMATE DEMAND FOR ASIAN GOODS IN THE SPANISH EMPIRE

In order to estimate the influence of familial forces on expanding demand for Asian goods in the global context of the Spanish Empire, this paper applies an econometric estimation model which takes into account not only customers' wealth, but also customers' contact with global familial networks as a variable in consumer demand for Asian manufactures with a sample of 122 probates of Mexico City and 131 of Seville, for a chronological block from 1580 to 1630.

Analysis of probate (post-mortem) inventories in this study takes several methodological precautions. Some are general and have been pointed out in the literature on material culture and consumer demand in pre-industrial times. Other precautions are related to particularities of the sample collected for this study. There were many types of probate inventories in the early modern era — simple probates, public auctions of realties and goods, divisions of properties among heirs and heiresses, and so forth — nevertheless all have a common characteristic. The probate inventory was a document that in Europe and European colonies was drawn up upon the death of a person to register his/her wealth to organise inheritance. Probates used in this study stem from different sorts of probates which in all cases register and appraise the wealth of the deceased. For Seville, data of probates, public auctions and divisions kept in the *Archivo Histórico Provincial de Sevilla* (AHPS) have been processed. For Mexico City, probates and public auctions kept in the *Archivo General de Indias* (AGI), the *Archivo de las Notarías del DF* (ANotDF), and the *Archivo General de la Nación* (AGN) were gathered. In the case of Mexico, some of the inventories used for this study are contained in the Goods of Deceased (*Bienes de Dinfuntos*) section of the AGI, which records the goods of the deceased who had heirs and heiresses living in Castile.

The first methodological precaution has to do with the stock-flow problem. Purchases, consumption (i.e. desire for and use and deterioration

[8] Sometimes the registers do not specify the objects in the package, but they are labelled as «presents from China» or «presents from Japan»: AGI, Contratación, 1809, pp. 268-270; AGI, Contratación, 1854, pp. 659-664; AGI, Contratación, 1866, pp. 466-468; AGI, Contratación, 1882, pp. 660-663; AGI, Contratación, 1890, pp. 2051-2053; AGI, Contratación, 1847, pp. 82-86; AGI, Contratación, 1847, pp. 82-86; AGI, Contratación, 1866, pp. 187-190; AGI, Contratación, 1847, pp. 112-117; AGI, Contratación, 1794, pp. 163-165; AGI, Contratación, 1795, pp. 9-10; AGI, Contratación, 1804, pp. 33-35; AGI, Contratación, 1831, pp. 131-132; AGI, Contratación, 1866, pp. 187-190; AGI, Contratación, 1873, pp. 267-272.

of the goods) and sales are a flow that varies according to the depreciation rate of goods. The depreciation rate, in turn, depends on elements as varied as the physical characteristics and use of the product, the wealth of customers, and also fashions regulating the use of products. In order to analyse consumer demand in pre-industrial times in all its complexity, ideally the depreciation rate and lifetime of goods as they affect the value of objects might have been calculated. However, probates only collect stocks of goods[9]. In this essay, I proceeded in the same way as other scholars have done in studies on consumer demand in the early modern era — consumer demand was inferred from expenditure on consumption of Asian goods and measured through the stock of Asian goods contained in probates[10].

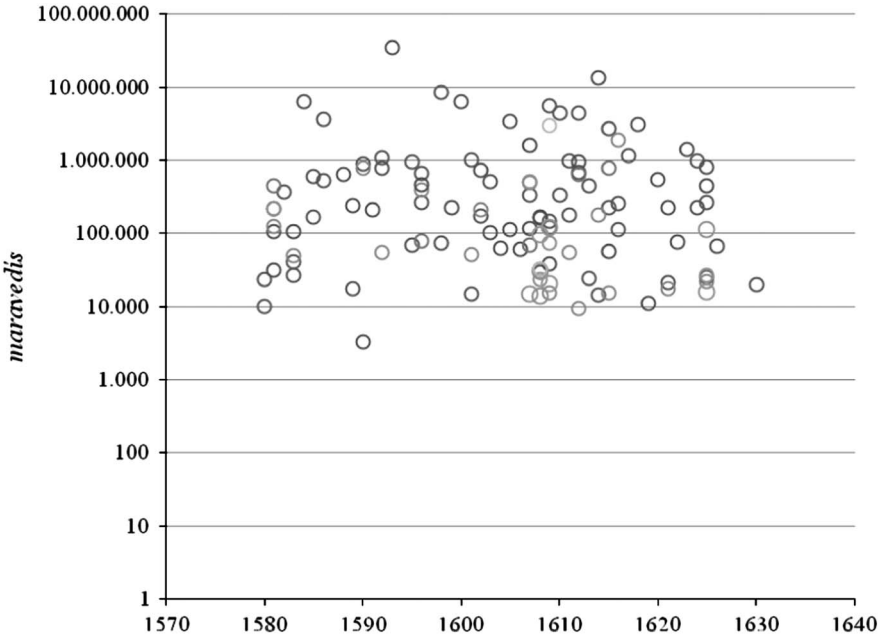
Second, in spite of differences between the two cities of reference for this study, which had to do mostly with different social and racial composition, Mexico City and Seville shared similarities: both cities had many analogous political institutions (*cabildo* or city council, merchant guild, *corregidores* or mayor-judge appointed by the king, *audiencia real* or royal tribunal, etc.), both were highly urbanised, both were principal nodes of the main Spanish global commercial, political and cultural networks of the time, and both had similar and comparable elites.

Third, another methodological challenge has to do with representation of the source. In order to gather a sample of probates which is sufficiently representative of the group to be analysed (De Vries 1993, pp. 105-106), as many inventories as possible of Mexican and Seville elites were collected. This has to do with another methodological challenge. There are fewer inventories of poor social groups and people with precarious finances than of wealthy groups, who had more goods and economic reasons to draw up probate inventories. This is especially the case for this study. Consumption of Asian manufactured goods in Mexico City and Seville was still an elitist reality around 1600. This is why the reduced sample of inventories — 122 in Mexico City and 131 in Seville — is representative of the social group of reference. The two cities had populations of about 100,000-130,000 people around 1580-1630. In Mexico City, Spaniards and Creoles, to whom goods of the Manila galleons were directed, numbered around 15,000 in the early decades of the 17th century (Gibson 1964, pp. 136-141, 378, 381). Poor immigrants from Castile are included in these 15,000 people, so that the elites of Mexico City comprised a number

[9] De Vries (1993, pp. 102-103). A summary of the stock-flow problem in modern economic theory, is to be found in Eatwell *et al*. (1991, pp. 506-508).

[10] A summary of the main methodological precautions in analysis of pre-industrial consumption from data contained in probate inventories, in Yun Casalilla (1999, pp. 27-40). See also Shammas (1990, pp. 169-181); Ramos Palencia (2001). Probably the most notable effort to calculate the depreciation rate of goods using probates as a primary source was made by Ramos Palencia. He calculated depreciation rates of goods in 18th-century northern Castile according to information from probates on the state of preservation of goods — that is on information regarding whether goods were «new» or «good» or «used» or «old»: Ramos Palencia (2003, pp. 153-164).

FIGURE 1
TIME AND WEALTH DISTRIBUTION OF SAMPLE OF INVENTORIES OF MEXICO CITY (SEMI-LOGARITHMIC SCALE), 1580-1630

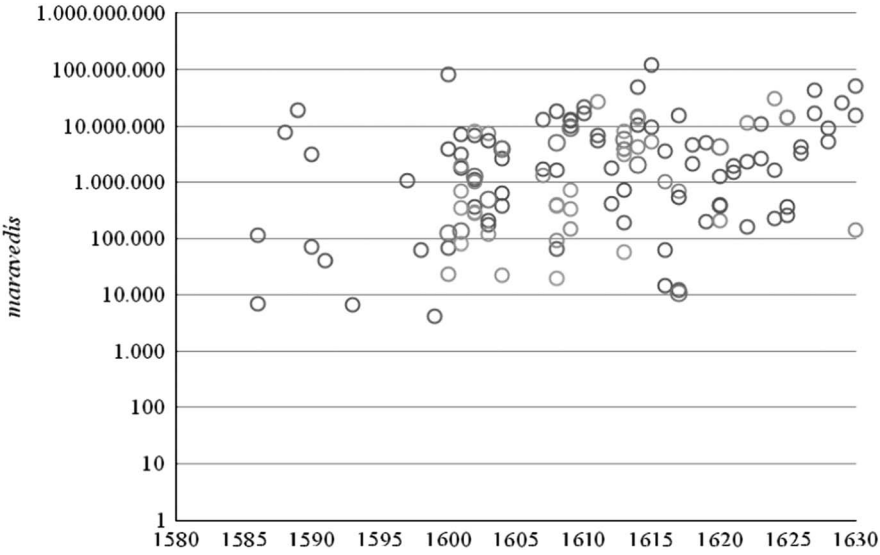


Nº inventories: 122.

Source: Archivo General de Indias (henceforth AGI), Contratación, Bienes de Difuntos; Archivo de las Notarías del DF (henceforth ANotDF), Protocolos; Archivo General de la Nación (henceforth AGN), Intestados; and AGN, Bienes de Difuntos.

even lower, probably much lower, than 15,000. Although it is hard to accurately estimate population per wealth group in Seville, it is highly likely that the wealthy within the Seville sample were also a reduced elite too. Seville's sample is mostly comprised of people with probates valued at more than 100,000 *maravedís*. In fact, most probates of the sample were valued at more than 1,000,000 *maravedís*, and an important part is made up of probates worth more than 10,000,000 *maravedís* (Figure 2). This means that the sample is mostly comprised of high nobles, merchants and rich artisans and bureaucrats, which is to say, according to literature on demography and social composition of early modern Seville, around 5 per cent of Seville's inhabitants (Álvarez Santaló 1983, pp. 1-19; Aguado de los Reyes 1994 pp. 35-66: Rodríguez Vázquez 1995, pp. 66-67 and 89). Furthermore, the upward bias of the sample is more accentuated in the Seville sample than in the Mexican one (Figures 1 and 2),

FIGURE 2
TIME AND WEALTH DISTRIBUTION OF SAMPLE OF INVENTORIES OF SEVILLE (SEMI-LOGARITHMIC SCALE), 1580-1630



Nº inventories: 131
Source: Archivo Histórico Provincial de Sevilla (henceforth AHPS), Protocolos.

and therefore more representative. This difference between samples occurs for two reasons. First, there was little leeway in archival work to construct a sample of inventories for Mexico City since few probate inventories of the 16th and 17th centuries have survived in Mexican archives; it was hard to gather a larger sample of probates of Mexican elites. It was only possible to gather a sample of probates from Mexico City after working in three different archives. Second, in spite of the existence of many more inventories in Seville than in Mexico, only the very wealthiest inhabitants of Seville possessed Asian goods. Moving upward socially to collect data on customer inventories in Seville of Asian goods has been a heuristic requirement; otherwise analysis would have been unfeasible. Far from being a problem, this additional constructive element of the Seville sample is duly weighted in the estimate model and is expected to confirm the conclusions of this article.

Fourth, wealth according to inventories of this study was computed without taking debts against decedents into account. During the early modern era, most wealthy people were heavily in debt, having in some cases negative net worth. This does not mean they were poor. On the contrary, in spite of — or perhaps because of — the fact that the wealthy had negative net

worth, this meant that they could spend huge amounts of money on consumer goods and maintain high levels of consumption. For this reason, including debts when calculating wealth would have been a larger methodological challenge than not including them. If debts had been included in regressions, it would not have been possible to find a way to compare consumer demand for Asian goods between the richest and «middling elites» of Mexico City and Seville, as it was more difficult for the latter to get into debt than it was for the former. In other words, including debts would have actually meant, in most cases, computing the richest of Mexico City and Seville as the poorest, which would have made it unfeasible to analyse demand[11]. Furthermore, given that the model aims to address consumer demand for Asian goods, those goods that were wholesale merchandise were excluded from the computation. Inclusion in the analysis of wholesale merchandise contained in the stock of people's inventories would have biased conclusions towards a higher demand for Asian goods of social groups such as textile craftsmen and wholesale merchants, which is to say towards social groups who accumulated Asian goods for reasons other than desire for and use of goods (i.e. consumption). Identification of wholesale merchandise in the probate inventories is relatively easy because they are usually indicated to be contained in boxes and are explicitly defined as merchandise or cargo (*mercadurías* or *cargamento*) in the probate. Of course, it is possible that some merchandise was, in the end, consumed by its owner, but reference to them as *mercaduría* or *cargamento* seems to indicate the contrary[12].

The model proposed here takes Carole Shammas's and Fernando Ramos Palencia's econometric estimate models for consumer demand for goods in pre-industrial times as reference. These two scholars calculated relative impacts of variables such as wealth — and income, when data are available — household

[11] This and other methodological problems when studying debts in studies on pre-industrial consumption, demand, wealth distribution and social status through probates have been addressed in the literature: Ramos Palencia (2011, pp. 36-39). As McCants (2006, p. 11) pointed out referring to early-modern English probates, «debt can sometimes be an indication of poverty, but, more often, those who carried the largest debt burdens were also those with the greatest assets».

[12] Recently, Dennis O. Flynn and Marie A. Lee have enriched understanding of the logic of market connections across distant spaces in the early modern world. Based on the Unified Theory of Prices, these two scholars have broken the dichotomy between supply and demand of conventional microeconomics by presenting three notions of supply and demand, respectively: Inventory Supply (existing stock of the product at a point in time), Production Supply (addition to stock in a time period) and Sales Supply (number of units of product sold off, thus depleting stock); and Inventory Demand (amount of desired product), Consumption Demand (units of product consumed over a time period) and Purchase Demand (additions to stock): Flynn and Lee (2013). These notions are useful to comprehend the explanation above. As probates collect «inventory supply» (all existing units of an item owned by an entity at a point in time), and I am only interested in studying demand (Consumption Demand and Purchase Demand), exclusion of units to be sold has been a heuristic requirement. In other words, keeping units that were intended to be sold off instead of consumed by customers, would have distorted the results of regressions, as the model is planned to gauge consumer demand.

size, book ownership, degree of urbanisation, socio-professional status and gender, on possessing more consumer goods in America and England and in northern Castile, respectively, in the 18th century (Shammas 1990, pp. 169-181; Ramos Palencia 2001). This work develops a model that includes some of these variables, but proposes others adjusted to the particularities of the Asian goods market, which was still in formation in the late 16th- and 17th-century Spanish Empire. This model contains an assumption and a hypothesis that are related. The assumption is that the slow and low-intensity character of the commercial links during the early modern era, and consequently high transport costs (Held *et al.* 1999, pp. XLII-LXIII; Gallo and Newland 2004), resulted in high dispersion of markets and prices at the global level during the early modern era. This was reflected in prices of Asian goods, which circulated in many markets around the world. Prices of Asian goods in the Americas and Castile during the 16th and 17th centuries point to strong increases in price from Asia to the Americas and then to Castile, which is consistent with the high transportation costs of the period (Chuang 1975, p. 114; Picazo Muntaner 2003). The related hypothesis is that, in such a context of structural dispersion of global markets and prices, transfer of Asian textiles and objects through extensive family networks, plays an important role in expansion of demand for such goods in the Spanish Empire.

Taking these two assumptions into account, the model follows the method of ordinary least squares (OLS). The equation of the proposed model, which is run on probates' data gathered in one block of time (1580-1630), is as follows:

$$\text{LnAsianGoodsValue} = \beta_0 + \beta_1 \times \text{MexicoSeville} + \beta_2 \times \text{LnWealth} + \beta_3$$

$$\times \text{LnHouse} + \beta_4 \times \text{Overseaslinks} + \beta_5 \times \text{Seamen} + \beta_6 \times \text{Status} + \beta_7 \times \text{Woman} + e$$

The dependent variable (LnAsianGoodsValue) is the *maravedís* value of Asian goods in Mexico City and Seville transformed into a natural log (ln) forms. This variable counts the value of all types of Asian goods contained in the sample of Mexico's and Seville's probate inventories, which were mostly Chinese silk, along with Chinese porcelain and Japanese furnishings. Although this variable combines values of products with different characteristics and duration, this combination is justified because it deals with a similar type of import good — goods from Asia transported in the Manila galleons, which had high geographical specificity and their importation into the Spanish Empire through Southeast Asia favoured diversification of elite consumer choices.

The first independent variable «MexicoSeville», is a dummy variable that distinguishes inventories of Mexico from those of Seville[13]. Given that inventories of both Mexico and Seville have been gathered into the same

[13] «MexicoSeville» codifies inventories of Mexico City as 1 and inventories of Seville as 0.

TABLE 1
THREE LINEAR REGRESSIONS OF WEALTH ON THE VALUE OF CONSUMER GOODS, 1580-1630

City	No of inventories	R^2		
		Linear	Semi-log	Double log
Mexico City	122	0.661	0.313	0.778
Seville	131	0.182	0.215	0.232

Notes: In the linear regression no variable is logged. In the semi-log regression wealth is logged. In the double log regression both wealth and value of consumer goods are logged.

Sources: AGI, Contratación, Bienes de Difuntos; ANotDF, Protocolos, AGN, Intestados; AGN, Bienes de Difuntos; and AHPS, Protocolos.

formula, it would be necessary to distinguish the inventories of the two cities with a dummy variable. Although the two cities were among the most urbanised and globally connected cities of the Spanish Empire, Asian goods circulated more widely in American than in Castilian territories. This variable aims to determine the extent to which the reception of Asian goods by Mexican elites was higher than by Seville's elites. Nonetheless, the model is applied to three different data sets: one that gathers all inventories from Mexico and Seville into the formula, to which the mentioned «MexicoSeville» variable is applied; a second comprises only the inventories of Mexico; and a the third only collects information on inventories of Seville.

«LnWealth» is a variable that measures *maravedís* value of realty, producer goods (livestock, merchant stocks, financial assets, equipment), consumer goods (houseware, furniture, clothing, food), and cash (not common in probates) contained in probate inventories. This and the dependent variable «LnAsianGoodsValue» appear in log form because, in contrast to semi-log and linear adjustments, double logarithmic adjustment better adapts to the relation between wealth and expenditure on consumer goods, such as Asian manufactures, in samples of both Mexico and Seville (see Table 1), and also reduces the problems of heteroscedasticity in the econometric model[14]. The double logarithmic adjustment assumes that purchase of consumer goods — among them Asian goods — by Mexican and Seville elites tended to continue to increase as they became wealthier, but at a lower rate of growth than overall wealth, because they progressively diverted a part of their wealth into investment (in land, state bonds and so forth) and savings. Such a model implies a consumer behaviour very similar to that of

[14] The double logarithmic adjustment reduces the problems of heteroscedasticity because it compresses the scale in which the variables are measured, and also because with such an adjustment the slope coefficient measures the elasticity of the dependent variable — *maravedís* value of owned Asian goods — with respect to the independent variable — wealth: Gujarati (2004, p. 421).

modern consumers[15]. Nonetheless, there seems to have been a stronger relationship between wealth and value of consumer goods in Mexico City than in Seville. Furthermore, if we look at the results of Table 1, we can see that there is a strong correlation between both variables when they are not logged in Mexico City. This means that people in Mexico purchased relatively more consumer goods than in Seville, to the extent that in some cases they spent almost nothing on anything else[16].

«LnHouse» measures the size of houses and therefore the effect of the number of rooms and bedrooms — tabulated by taking the number of beds contained in the inventories — on having more or less Asian goods[17].

The variable «status» tests the extent to which belonging to a social group affected the possession of Asian goods; which is to say it tests which sociological groups were more likely to have Asian goods regardless of other economic considerations. More specifically, this variable measures the effect of belonging to one of three different social groups of the two cities on having more Asian goods: aristocrats, which comprised of nobles, high municipal elites, landowners and wholesale traders; «middle elites», who were less wealthy elites, basically craftsmen, shopkeepers, professionals and civil servants; and clerics — priests and monks. The category «unknown» gathers inventories that do not register people's socio-professional status[18].

Special attention is paid to variables referred to having overseas links (OverseasLinks) and having a job related to the sea (seamen). These two variables aim to test the effect of global familial and private strictly non-commercial networks on the purchase of Asian goods, and the role of

[15] This was also the case with consumers in 18th-century England and America, and 18th-century northern Castile: Shammas (1990, pp. 100-104); Ramos Palencia (2001, pp. 45-46).

[16] This difference may be attributed to two reasons. One possible reason is that wealthy Creoles and Iberians of Mexico City invested less in livestock and immovable items such as tribute payments (*tributos*) on peasantry and land than the wealthy of Seville because of the characteristics of Mexico's society and political system. Mexico City and the valley of Mexico were more urbanised than Seville and its hinterland, and elites of Mexico had less land possessions in the countryside than their peers in Seville. Furthermore, the royal practice of selling *asientos* — contracts to pay the Crown in return for the allocation with interest of specific expected revenue — and *juros* — state bonds, or state-supported annuities — was quite common in Castile but much less so in the Americas (Andrien 1981). Another possible reason may have to do with the fact that the Mexican sample contains less wealthy elites than the sample of Seville, so that the durable goods' value of sampled Mexicans is more correlated to their wealth as they would invest less in immovable items — wealthier people proportionally devote and devoted less of their wealth to durable goods than less wealthy people.

[17] The size of households (LnHouse) has been computed as the number of beds times 2, with those inventories having no beds coded as 1, and logged also. Although the variables «LnWealth» and «LnHouse» are related, as being wealthier meant having larger houses, these two variables do not present serious levels of multicollinearity (see appendix). Other factors, such as having more family members, probably also influenced having larger houses.

[18] «Status» is a dummy variable codified with the «middle elites» as group of reference, and «aristocrats», «clerics» and «unknown» codified as 0.

New Spanish elites as diffusers of Asian manufactured goods to Castile. The «OverseasLinks» variable counts people who, according to information in probates, had kin, direct commercial links or any kind of private relationship with relatives or commercial agents in the Philippines, in the case of Mexican elites, and in the Americas, in the case of residents of Seville. Insofar as probates were drawn up to distribute inheritance, the document mentions relatives of the deceased, whether they lived in Castile or in far-away places such as the Americas and the Philippines[19]. The «seamen» variable refers to those who habitually travelled across oceans — sailors, captains, secretaries of fleets and so forth[20]. These two variables are based on the same principle: they reflect the possibility to overcome the low quantity and high price of Asian goods on home markets for Seville — with respect to the Americas — and for Mexicans — with respect to the Philippines — by utilising early modern global networks, which were slow but extensive. Although the two variables play a similar function in the model, they are not the same. «Seamen», unlike «OverseasLinks», poses movement of the customer himself/herself around the world as a way to easily and cheaply access Asian goods in the Spanish Empire.

The last independent variable, «women», is another dummy variable that measures possible gender bias in possession of more or less Asian goods[21].

4. CONSUMER DEMAND FOR ASIAN GOODS IN THE SPANISH EMPIRE

Tables 2, 3 and 4 show the results of the OLS regressions run on data for value of Asian goods per probate inventory in Mexico City and Seville between 1580 and 1630 following the proposed econometric model. The first two tables depict results of regressions with data for inventories of Mexico City and Seville, respectively. The final table displays results of regressions for all inventories integrated into the same formula, and a dummy variable which distinguishes inventories of Mexico from those of Seville. Let us focus first on the differences between the regressions of Mexico City and Seville before moving on to a consideration of the combined inventories of the two cities in an attempt to interpret overall results.

Tables 2 and 3 show six regressions on the Asian goods value contained in probate inventories of Mexico City and Seville, respectively. The main difference between the results of this model in Mexico City and that of Seville has to do with R^2 values —goodness-of-fit — and some variables

[19] «OverseasLinks» is a dummy variable codified as 1 for people who had overseas links and as 0 for those who did not.

[20] «Seamen» is another dummy variable codified as 1 for people who were seamen and 0 for those who were not.

[21] «Women» codifies as 1 the women of the sample and 0 the men.

TABLE 2
DETERMINANTS OF THE *MARAVEDÍS* (LN) VALUE OF ASIAN GOODS IN PROBATE INVENTORIES, MEXICO CITY (1580-1630)

	1	2	3	4	5	6
Wealth (ln)	2.150** (0.699)	2.100** (0.683)	2.051** (0.667)	1.989** (0.646)	2.008** (0.653)	1.951** (0.635)
House size (ln)		0.280 (0.034)	0.199 (0.0239)	0.414 (0.04981)	0.393 (0.0473)	0.455 (0.0547)
Overseas links			3.588** (0.169)	3.760** (0.178)	3.868** (0.183)	3.654* (0.173)
Seamen				1.523 (0.0850)	1.428 (0.0797)	2.004 (0.112)
Social status						
Aristocrats					–0.383 (–0.0149)	0.147 (0.0057)
Clerics					0.116 (0.0062)	0.514 (0.0276)
Unknown					0.160 (0.0144)	–0.249 (–0.0224)
Woman						2.529* (0.173)
Constant	–20.071**	–19.605**	–19.256**	–18.779**	–19.073**	–18.772**
Observations	122	122	122	122	122	122
R^2	0.49	0.49	0.52	0.52	0.53	0.55

Notes: Normalised β coefficients in parentheses.

Independent variable transformations: those with (ln) have been transformed into natural logs; household size is computed as the number of beds times 2, with those inventories having no beds coded as 1; *Overseas links* is a dummy variable coded 1, 0, with people without links in the Philippines as reference category; *Seamen* is a dummy variable coded 1, 0, with people who had no jobs related to sea (captains, sailors, and so on) as reference category; *Social status* category is a dummy variable coded 1, 0, with «middle elites» as the reference category; and *Woman* is a dummy variable coded 1, 0, with women as reference category.

*Significant at 5%; **significant at 1%.

Source: AGI, Contratación, Bienes de Difuntos; ANotDF, Protocolos, AGN, Intestados; and AGN, Bienes de Difuntos.

TABLE 3
DETERMINANTS OF THE MARAVEDÍS (LN) VALUE OF ASIAN GOODS IN PROBATE INVENTORIES, SEVILLE (1580-1630)

	1	2	3	4	5	6
Wealth (ln)	0.886** (0.353)	0.669** (0.266)	0.443* (0.176)	0.407* (0.162)	0.530* (0.211)	0.488* (0.194)
House size (ln)		1.263* (0.211)	1.322** (0.221)	1.469** (0.246)	1.197* (0.200)	1.219* (0.204)
Overseas links			6.668** (0.380)	6.906** (0.394)	7.102** (0.405)	7.111** (0.406)
Seamen				5.766** (0.309)	5.860** (0.313)	5.465** (0.293)
Social status						
Aristocrats					–0.004 (0.0003)	–0.075 (–0.00527)
Clerics					4.080* (0.175)	3.816* (0.164)
Unknown					0.270 (0.0242)	0.676 (0.0606)
Woman						–1.115 (–0.091)
Constant	–10.671**	–8.987*	–6.624*	–6.879**	–8.719**	–7.962*
Observations	131	131	131	131	131	131
R^2	0.12	0.16	0.30	0.39	0.42	0.43

Notes: Normalised β coefficients in parentheses.

Independent variable transformations: those with (ln) have been transformed into natural logs; household size is computed as the number of beds times 2, with those inventories having no beds coded as 1; *Overseas links* is a dummy variable coded 1, 0, with people without links in the Americas as reference category; *Seamen* is a dummy variable coded 1, 0, with people who had no jobs related to sea (captains, sailors, and so on) as reference category; *Social status* category is a dummy variable coded 1, 0, with «middle elites» as the reference category; and *Woman* is a dummy variable coded 1, 0, with women as reference category.

*Significant at 5%; **significant at 1%.

Source: AHPS, Protocolos.

TABLE 4

DETERMINANTS OF THE *MARAVEDÍS* (LN) VALUE OF ASIAN GOODS IN PROBATE INVENTORIES, MEXICO CITY AND SEVILLE (1580-1630)

	1	2	3	4	5	6	7
MexicoSeville	3.522** (0.302)	6.651** (0.570)	6.910** (0.592)	6.802** (0.583)	6.778** (0.581)	6.649** (0.570)	6.778** (0.581)
Wealth (ln)		1.195** (0.546)	0.967** (0.478)	1.057** (0.423)	0.982** (0.393)	1.045** (0.418)	1.054** (0.421)
House size (ln)			0.975*(0.147)	0.972* (0.147)	1.221** (0.184)	1.101** (0.166)	1.101** (0.166)
Overseas links				5.174** (0.260)	4.487** (0.276)	5.957** (0.300)	4.919** (0.298)
Seamen					4.077** (0.212)	4.069** (0.212)	4.298** (0.224)
Social status							
Aristocrats						–0.740 (–0.0416)	–0.613 (–0.0345)
Clerics						2.823* (0.131)	2.940** (0.136)
Unknown						0.279 (0.0240)	0.069 (0.0059)
Woman							0.810 (0.0588)
Constant	1.850**	–17.434**	–16.108*	–14.747**	–14.410**	–15.376**	–15.689**
Observations	253	253	253	253	253	253	253
R^2	0.09	0.32	0.33	0.40	0.44	0.46	0.46

Notes: Normalised β coefficients in parentheses.

Independent variable transformations: those with (ln) have been transformed into natural logs; *MexicoSeville* is a dummy variable coded 1, 0, with people from Mexico City as the reference category; household size was computed as the number of beds times 2, with those inventories having no beds coded as 1; *Overseas links* is a dummy variable coded 1, 0, with Mexicans without links in the Philippines and people from Seville without links in the Americas as reference category; *Seamen* is a dummy variable coded 1, 0, with people who had no jobs related to sea (captains, sailors, and so on) as reference category; *Social status* category is a dummy variable coded 1, 0, with «middle elites» as the reference category; and *Woman* is a dummy variable coded 1, 0, with women as reference category.

*Significant at 5%; **significant at 1%.

Source: AGI, Contratación, Bienes de Difuntos; ANotDF, Protocolos, AGN, Intestados; AGN, Bienes de Difuntos; and AHPS, Protocolos.

which are most correlated with having more Asian goods in the two cities. Each regression adds one independent variable to the previous regression. The sixth regression, which introduces all variables, yields an R^2 value of 0.55 in Mexico City and 0.43 in Seville. Thus around 55 per cent of value variation for Asian goods owned by sampled people of Mexico City can be attributed to selected variables (Table 2); this number drops to 43 per cent in the case of Seville (Table 3). The regression for Mexico City fits the proposed model better.

Another difference between the results of Mexico City and those of Seville involves the relevance of the independent variables «wealth», «OverseasLinks» and «seamen» in explaining the dependent variable. These are the variables which mostly explain variation in value of Asian goods in inventories of the two Hispanic cities, as can be seen in the regression which includes all variables, the last column of each table. In Mexico City (Table 2) wealth of customers is the most correlated variable with variation in value of Asian goods — standardised β coefficient of 0.635. It is much more correlated than variables that propose familial and strictly non-commercial links of the recorded Mexican elites with people of the Philippines as a factor in having more Asian goods — «OverseasLinks» and «seamen», with β coefficients of 0.173 and 0.112, respectively. Furthermore, the «seamen» variable in the regression run in the Mexican sample has a weak significance level. This is coherent with the fact that not all Mexican seamen were bound for the Philippines, but most were bound for Seville, where Asian goods were more expensive and scarcer than in New Spain. However, in Seville (Table 3) variables which take into account elites' participation in global networks, either by having personal contacts with people living in New Spain or by being a seaman, as a means to access Asian goods, have a higher coefficient than the variable that counts wealth of people — the «OverseasLinks» and «seamen» variables have β coefficients of 0.406 and 0.293, respectively, and «wealth» a coefficient of 0.194.

The impact of these two variables on the results of the model when applied to the sample of Seville indicates that above mentioned forms of Asian goods transfer such as gift- and order-transferring and commissions of Asian goods from New Spain to Castile had a strong impact on the spread of demand for Asian manufactures in the Andalusian city, and most likely in other large Castilian cities too, in c.1600. This fits with the fact that retail supply of Asian goods was barely developed in Seville. Not one probate inventory of Seville retailers had Chinese silks among supplies — although some did retail other imports such as Italian silks[22]. This contrasts

[22] The following contain probates of retailers identified in Mexico City from 1580 to 1630. No one records Chinese silk or any other Asian product in their stock: Archivo Histórico Provincial de Sevilla (henceforth AHPS), Protocolos, Leg. 13734, pp. 889-890; AHPS, Protocolos, Leg. 12617, pp. 621-666; AHPS, Protocolos, Leg. 11689, no page; AHPS, Protocolos, Leg. 3587, pp. 1060-1062; AHPS, Protocolos, Leg. 9393, pp. 659-676.

with the situation in Mexico City where products such as Chinese silk and porcelain were sold in shops and also on city streets by peddlers and hawkers[23]. In other words, although demand for Asian goods was likely to grow in Seville in the early 17th century as new global routes connected the Atlantic World and the rest of the world, demand was not high enough for retail supply of Asian goods to cover such demand as it did in Mexico in the early 17th century. This gap was filled by the supply of these goods by relatives and trustworthy people living in the Americas. A few examples will help to illustrate the way the elite of Castile accessed Asian goods in markets still in formation. In 1618, the Count of Santiago sent his wife, who lived in Castile, several pieces of Chinese silk, two folding screens, two writing desks from Japan, and one chest from Japan[24]. As mentioned above, not only entitled aristocrats used these networks to get Asian goods that were scarce in Castile. In 1603 Lucio Gutiérrez, a resident of Jalapa, sent his sisters in Castile several pieces of Chinese silk, damasks and Chinese silk circlets[25]. Commoditisation of Asian goods was less advanced in Castilian cities like Seville than in American cities like Mexico City, so that the elites of Seville recurrently turned to relatives and acquaintances living in the Americas to satisfy their growing taste for Chinese silk, porcelain and other Asian manufactures.

Table 4 integrates data of all inventories from Mexico and Seville into the formula. The seventh regression of the table offers some important information, since the R^2 value is relatively high at 0.46. The variable «MexicoSeville», which distinguishes inventories of Mexico from those of Seville, presents the highest standardised coefficient (0.581), which demonstrates that consumer demand for Asian goods among the elites of an American city like Mexico was much more widespread than among the elites of Seville in the early 17th century. Of course, this had to do with the point mentioned above: prices of Asian goods were lower in Mexico City than in Seville. Other variables which also appear to be especially important are «wealth», «HouseSize», «OverseasLinks», and «seamen». Most have already been commented on in the comparison between Mexico City and that of Seville. The correlation between «wealth» and the value of Asian products is the second most important — standardised coefficient of 0.421. The correlation between size of household and the dependent variable is also

[23] Probates of Mexican shopkeepers and tailors are full of Asian goods such as Chinese silk to be sold: Archivo de las Notarías de México D.F. (henceforth ANotDF, Notario Juan Bautista Moreno (375), Reg. 2483, pp. 199-205; ANotDf, Notario Andrés Moreno (374), Reg. 2467, pp. 465-478; AGI, Contratación, 274 A, N.1, R.11; ANotDF, Notario Juan de Porras Farfán (498), Reg. 3363, pp. 672-678; AGI, Contratación, 517, N.2, R.1.

[24] AGI, Contratación, 1852 A, pp. 505-508.

[25] AGI, Contratación, 1804, pp. 33-35. The «inward registers of ships to Seville from New Spain» are full of similar examples: «Inward registers of ships to Seville from New Spain» of the years from 1587 to 1641: AGI, Contratación, 1793 to 1929B.

high at 0.166 — having more parlours, chambers, and rooms implied the need for more furnishing, and Asian textiles and pieces of furniture played an important role in decorating rich homes, especially in Mexico City (Curiel 2007).

With regard to the variable «SocialStatus», it must be noted that the group of reference in regressions is that of «middle elites» — craftsmen, shopkeepers, professionals, civil servants — and therefore the correlation coefficient of other social groups — aristocrats and clerics — is high or low in relation to the coefficient of «middle elites». Furthermore, data on social status have to be interpreted carefully because of a weak significance level, the only exception being clerics. Belonging to the aristocrat social group — the category which comprises high municipal elites, nobles and wholesale traders — appears to be barely important (Table 2) or a negatively correlated variable (Tables 3 and 4) to increasing value of Asian goods in comparison with other «middle elites», the low significance level of the correlation notwithstanding. Studies on 18th-century consumption have shown in recent years that explanations based upon «trickle down» emulation do not help to explain the spread of new goods and consumption patterns in 18th-century European societies (Fine and Leopold 1993; Weatherill 1996). The results of this paper indicate that such explanations do not work at the early stages of the presence of Asian textiles and objects in New Spain or Castile either. In the Spanish Empire «middle elites» such as shopkeepers, craftsmen and above all the clerics, instead of nobles and wholesale merchants, appeared to purchase Asian manufactured goods more eagerly, and therefore pioneered integration of Chinese silk and Japanese furnishings in terms of clothing fashions and house decorative patterns.

Particularly interesting is the case of clerics who, regardless of purchasing power, acquired an average of more Asian products than «middle elites» and many more than aristocrats. There are three related reasons for this. First, friars and priests were enthusiastic purchasers of Chinese silk, usually used for chasubles and robes and to dress Virgins and saints (Díaz Rodríguez 2010). Second, the Church was one of the most global institutions of the time, whose members and organisations were very closely connected from the Philippines to Castile through the Americas and through the Cape route. And last but not least, Church officials comprised the only social group — apart from the king — that enjoyed the privilege of sending and receiving gifts duty-free from port to port. Gift transfers to ecclesiastical institutions were the only ones not charged *avería* taxes (Tomo 1791, p. 113). This seems to have favoured Church clerics, who had cheaper access to Asian products than other members of society.

Finally, the value of last variable, «women» is rather meaningless in the regression for all Mexican and Seville inventories, since its significance level is low. This makes it difficult to interpret whether women purchased more Asian

goods than men, or vice versa for the entire sample. When the two samples are separated, however, the variable presents a positive coefficient (0.172) and also a significant level (p <0.5) in the case of Mexico City (Table 2). This might lead us to situate some historiographical discoveries of 18th-century Europe back in time and in other continents. As 18th-century English women were pioneers in consuming and spreading taste for product novelties such as Indian calicoes in their country (Lemire 1991), probate inventories of Mexico City suggest that wealthy women played a role in the diffusion — as customers — of Asian goods such as Chinese silks and porcelains while the trade of Asian products in the Atlantic World was less developed. Although data of probates are not decisive and future research will have to confirm the pioneering role of Mexican women in distributing Asian goods, the results of the regressions point to such a conclusion.

5. CONCLUSIONS

Addressing the central role of China and Chinese demand for silver from the 16th century onwards, increasing connections between Europe, Asia, the Americas and Africa, and consumer demand for market novelties, such as imports from Asia and the Americas into European countries and also imports of American crops into China in the early modern era, allowed scholars to offer new explanations for changes in the structure of world trade in the early modern era so as to give new answers to the old question about the timing and development of modern economic growth. However, little was still known about the way commoditisation and market formation of scarcely known goods that were hardly traded, such as Asian goods, took place in Europe and the Americas in the 18th century. This article contributes to understanding how access to Asian manufactures such as Chinese porcelain and Chinese silk were realised, and demand for them expanded in New Spain and Castile, in an early context in which Asian imports and their imitations were scarce in European markets and far from integrated into marketing systems.

Configuration of European market trade in Asian manufactured goods was possible because, before the 18th century, demand for these products extended through a complex process in both time and form. The opening of the Manila Galleon route across the Pacific Ocean in the last quarter of the 16th century extended Asian manufactures in colonial Latin America as had not hitherto been the case in European countries, with Portugal as a probable exception. This drives us to qualify some explanations about the ways new products and consumption habits extended in the Atlantic World. For instance, it seems that the richest elites of society were relatively unimportant compared with «middle elites» was not a novelty of 18th-century north-western European countries, since they can be traced in late 16th- and

early 17th-century New Spain. A certain amount of Asian goods was not purchased by elites of the Spanish Empire through retail means. Commercial and merchant houses were not the only suppliers of Asian goods to the markets of the Spanish Empire, especially the Iberian markets of Castile in the early 17th century. Considering the conditions of underdeveloped markets and means of transport, as well as strong dispersion of prices, during the early modern era, the simple fact that Asian goods could be purchased more easily by those who took advantage of fortuitous locations in global networks, like seamen and people who had relatives in the Americas and the Philippines, was a prime determinant for expansion of demand. The analysis has revealed that, regardless of the importance of other factors such as wealth and size of one's house, private and familial contacts and shipment of Asian gifts, as well as commission on special orders, had strong impacts on the spread of Asian goods in the Spanish Empire, especially in areas farthest from Asia, such as Seville, in the late 16th and 17th centuries. These contacts facilitated expansion of tastes for Asian products in the Spanish Empire at a time of scant retail activity, despite the fact that their presence was still rare, and prices high in Europe.

The later integration of Chinese porcelain and its imitations in specialised retail and marketing systems of Europe was a step forward in a process of economic modernisation that had started centuries earlier. Commoditisation of Asian and Asian-like goods produced in Europe culminated in the 18th century, when demand for them extended enough to integrate market mechanisms such as fashion, branding and shopping. To reach such a point, demand for Asian goods had to expand through mechanisms that initially had to do, not only with the market, but also with the possibility of having relatives and trustworthy people living in distant places and moving across oceans and continents.

SOURCES

A total of 122 probate inventories of Mexico City dated between 1580 and 1630 were collected in *Archivo General de Indias* (AGI), Seville, *Contratación*, *Bienes de Difuntos*, files 221–937; *Archivo de las Notarías del DF* (ANotDF), Mexico City, *Protocolos*, *notarios* Juan Bautista Moreno (375), Andrés Moreno (374), Juan Porras Farfán (498), José Rodríguez (555), José de la Cruz (106), Juan Pérez de Rivera (497) and Hernando de Arauz (4) (some probates were analysed in the archive *in situ*, others consulted on MIJARES, I., ed., 2005-2006: *Catálogo de protocolos del Archivo General de Notarías de la Ciudad de México*, 3 volumes, México: UNAM); and *Archivo General de la Nación* (AGN), Mexico City, *Intestados,* caja-exp.: 4808–031, and *Archivo General de la Nación* (AGN), Mexico City, *Bienes de Difuntos*, caja-exp.: 4705–001 and 1191–008.

Totally, 131 probate inventories of Seville were collected in *Archivo Histórico Provincial de Sevilla* (AHPS), Seville, *Protocolos*, several files (*legajos*) from 169 to 16,140 (years 1580-1630).

«Inward registers of ships to Seville from New Spain» (*registros de venida de Nueva España*) from 1587 to 1641 have been collected in *Archivo General de Indias* (AGI), Seville, *Contratación*, 1793 to 1929B.

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APPENDIX 1

Problems of heteroscedasticity in OLS regressions of Tables 2, 3 and 4 have been reduced with the logarithmic transformation of the independent variable (LnAsianGoodsValue) and the dependent variables «LnWealth» and «LnHouse».

The application of the econometric model to data does not present problems of autocorrelation. It was checked by running the Durbin–Watson statistic, which tests autocorrelation in the residuals, in each of the three samples containing all the variables. According to the Durbin–Watson test, values close to 2 mean absence of autocorrelation. All values resulted from applying the Durbin–Watson statistic to the three samples are close to 2 — Durbin–Watson statistic coefficient of Table 2 is at 1.867, Durbin–Watson statistic of Table 3 is at 2.267, and Durbin–Watson statistic of Table 4 is at 2.187.

The application of the econometric model to data does not present problems of multicollinearity either. The degree of multicollinearity was checked by looking at three statistical tests: Tolerance, variance inflation factor (VIF) of each independent variable and Condition Index. According to Kleinbaum (2013, pp. 368-369) and Belsley (2004, p. 105), Tolerance values very close to 0 — less than 0.1 — and VIF values of 5-10 indicate major collinearity issues, and Condition Indices >30 reflect moderate collinearity or worse. In Table 2, Tolerance values of variables are between 0.6 and 0.9, VIF values are between 1.1 and 1.6, and the highest condition index is 21.8; in Table 3, Tolerance values of variables are between 0.5 and 0.8, VIF values are between 1.1 and 1.8, and the largest condition index is 22.9; and in Table 4, Tolerance values of variables are between 0.5 and 0.8, VIF values are between 1.1 and 1.9, and the largest condition index is 23.3.

TABLE A-1
STATISTICAL DESCRIPTION OF VARIABLES OF OLS REGRESSION RUN ON VALUE IN *MARAVEDÍS* (LN) OF ASIAN GOODS IN MEXICO CITY AND SEVILLE, 1580-1630 (TABLE 4)

Variables	Observations	Sum	Mean	SD
Asian goods (ln)				
1580-1630	253	897.77	3.5485	5.83885
1580-1610	146	459.35	3.1462	5.80200
1611-1630	107	438.42	4.0974	5.87141
City				
1580-1630	253	122	0.48	0.501
1580-1610	146	80	0.55	0.499
1611-1630	107	42	0.39	0.491
Wealth (ln)				
1580-1630	253	3294.13	13.0203	2.33344
1580-1610	146	1835.35	12.5709	2.21908
1611-1630	107	1458.77	13.6334	2.35604

TABLE A-1 (*Cont.*)

Variables	Observations	Sum	Mean	SD
House size (ln)				
1580-1630	253	197.44	0.7804	0.88183
1580-1610	146	112.70	0.7719	0.87102
1611-1630	107	84.74	0.7920	0.90035
Overseas links				
1580-1610	253	24	0.09	0.294
1580-1610	146	14	0.10	0.295
1611-1630	107	10	0.09	0.292
Seamen				
1580-1610	253	26	0.10	0.304
1580-1610	146	12	0.08	0.276
1611-1630	107	14	0.13	0.339
Social status				
Aristocrats				
1580-1610	253	31	0.12	0.329
1580-1610	146	18	0.12	0.330
1611-1630	107	13	0.12	0.328
Clerics				
1580-1630	253	20	0.08	0.270
1580-1610	146	11	0.08	0.265
1611-1630	107	9	0.08	0.279
Middle elites				
1580-1630	253	79	0.31	0.464
1580-1610	146	47	0.32	0.469
1611-1630	107	32	0.30	0.460
Unknown				
1580-1630	253	123	0.49	0.501
1580-1610	146	70	0.48	0.501
1611-1630	107	53	0.50	0.502
Woman				
1580-1630	253	59	0.23	0.424
1580-1610	146	34	0.23	0.424
1611-1630	107	25	0.23	0.425

Notes: OLS: ordinary least squares. Data are presented in three time blocks: 1580-1610, 1611-1630 and 1580-1630. Regressions are run with all data in one chronological block from 1580 to 1630.

Source: AGI, Contratación, Bienes de Difuntos; ANotDF, Protocolos, AGN, Intestados; and AGN, Bienes de Difuntos.

TABLE A-2
STATISTICAL DESCRIPTION OF VARIABLES OF OLS REGRESSION RUN ON VALUE IN *MARAVEDÍS* (LN) OF ASIAN GOODS IN SEVILLE, 1580-1630 (TABLE 3)

Variables	Observations	Sum	Mean	SD
Asian goods (ln)				
1580-1630	131	242.36	1.8501	5.60228
1580-1610	66	33.58	0.5088	5.09390
1611-1630	65	208.78	3.2120	5.80168
Wealth (ln)				
1580-1630	131	1850.43	14.1255	2.22947
1580-1610	66	894.17	13.5480	2.28644
1611-1630	65	956.27	14.7118	2.02331
House size (ln)				
1580-1630	131	144.21	1.1008	0.93685
1580-1610	66	74.94	1.1355	0.91914
1611-1630	65	69.27	1.0656	0.96036
Overseas links				
1580-1610	131	15	0.11	0.320
1580-1610	66	6	0.09	0.290
1611-1630	65	9	0.14	0.348
Seamen				
1580-1610	131	13	0.10	0.300
1580-1610	66	5	0.08	0.267
1611-1630	65	8	0.12	0.331
Social status				
Aristocrats				
1580-1610	131	25	0.19	0.394
1580-1610	66	12	0.18	0.389
1611-1630	65	13	0.20	0.403
Clerics				
1580-1630	131	8	0.06	0.240
1580-1610	66	4	0.06	0.240
1611-1630	65	4	0.06	0.242
Middle elites				
1580-1630	131	35	0.27	0.444
1580-1610	66	18	0.27	0.449
1611-1630	65	17	0.26	0.443

TABLE A-2 (*Cont.*)

Variables	Observations	Sum	Mean	SD
Unknown				
1580-1630	131	63	0.48	0.502
1580-1610	66	32	0.48	0.504
1611-1630	65	31	0.48	0.503
Woman				
1580-1630	131	38	0.29	0.456
1580-1610	66	19	0.29	0.456
1611-1630	65	19	0.29	0.458

Notes: OLS: ordinary least squares. Data are presented in three time blocks: 1580-1610, 1611-1630 and 1580-1630. Regressions are run with all data in one chronological block from 1580 to 1630.

Source: AHPS, Protocolos.

TABLE A-3
STATISTICAL DESCRIPTION OF VARIABLES OF OLS REGRESSION RUN ON VALUE IN *MARAVEDÍS* (LN) OF ASIAN GOODS IN MEXICO CITY, 1580-1630 (TABLE 2)

Variables	Observations	Sum	Mean	SD
Asian goods (ln)				
1580-1630	122	655.41	5.3722	5.55027
1580-1610	80	425.77	5.3221	5.46184
1611-1630	42	229.64	5.4676	5.78092
Wealth (ln)				
1580-1630	122	1443.69	11.8335	1.80479
1580-1610	80	941.19	11.7649	1.81147
1611-1630	42	502.50	11.9644	1.80648
House size (ln)				
1580-1630	122	53.23	0.4363	0.66782
1580-1610	80	37.76	0.4719	0.70417
1611-1630	42	15.47	0.3684	0.59461
Overseas links				
1580-1610	122	9	0.07	0.262
1580-1610	80	8	0.10	0.302
1611-1630	42	1	0.02	0.154

TABLE A-3 (*Cont.*)

Variables	Observations	Sum	Mean	SD
Seamen				
1580-1610	122	13	0.11	0.310
1580-1610	80	7	0.09	0.284
1611-1630	42	6	0.14	0.354
Social status				
Aristocrats				
1580-1610	122	6	0.05	0.217
1580-1610	80	6	0.08	0.265
1611-1630	42	0	0.00	0.000
Clerics				
1580-1630	122	12	0.10	0.299
1580-1610	80	7	0.09	0.284
1611-1630	42	5	0.12	0.328
Middle elites				
1580-1630	122	44	0.36	0.482
1580-1610	80	29	0.36	0.484
1611-1630	42	15	0.36	0.485
Unknown				
1580-1630	122	60	0.49	0.502
1580-1610	80	38	0.48	0.503
1611-1630	42	22	0.52	0.505
Woman				
1580-1630	122	21	0.17	0.379
1580-1610	80	15	0.19	0.393
1611-1630	42	6	0.14	0.354

Notes: OLS: ordinary least squares. Data are presented in three time blocks: 1580-1610, 1611-1630 and 1580-1630. Regressions are run with all data in one chronological block from 1580 to 1630.

Source: AGI, Contratación, Bienes de Difuntos; ANotDF, Protocolos, AGN, Intestados; AGN, Bienes de Difuntos; and AHPS, Protocolos.